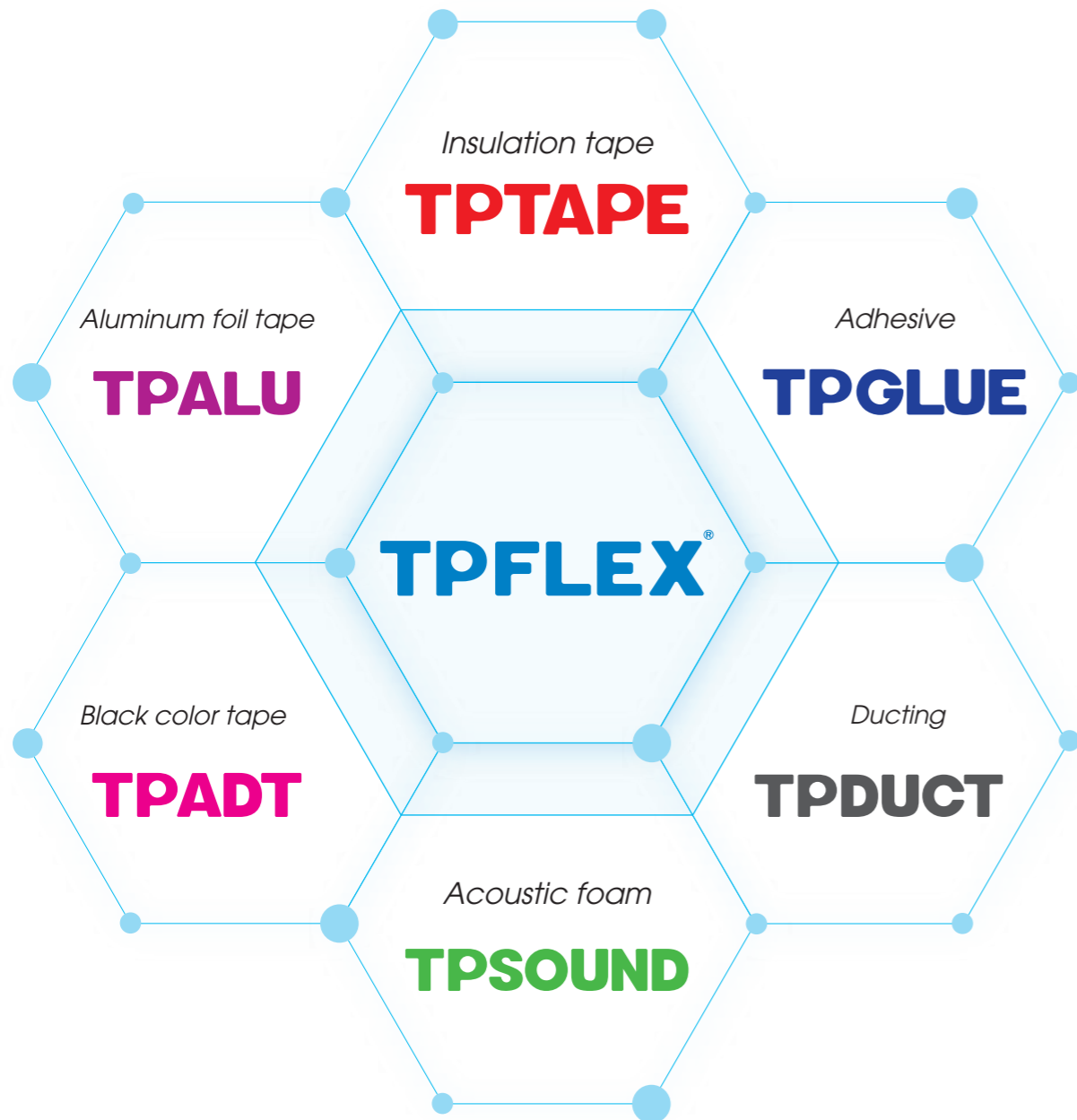


TPFLEX[®]





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INTRODUCTION

TPTECH INTERNATIONAL JOINT STOCK COMPANY would like to send respectful greetings to Customers and Partners. TPTECH is the professional insulation manufacturer in Vietnam providing total solutions for insulation and sound absorption used in HVAC&R industry.

Located in Yen My II Industrial Park, Hung Yen Province with almost 33.000 square meters, TPTECH is intergrated place of well- skilled leading experts and technicians, modest European technological machinery, professional production management process guaranteeing to produce products with international standards.

We are sincerely thankful and hope to corporate with valued customers and partners.



CHARACTERISTICS

TPFLEX NBR/PVC elastomeric foam insulation

Closed cell structure | The closed cell structure of TPFLEX helps highly resist water vapor, low Thermal conductivity and it is suitable for in- door applications without protection layer.

Low thermal conductivity | TPFLEX insulation has low and stable thermal conductivity while using to optimize heat loss in HVAC&R system.

Save energy | TPFLEX products based on NBR/PVC material, with Closed-Cell structure and low thermal conductivity that increased energy efficiency in HVAC and building industry. Our products will help saving your money in HVAC system

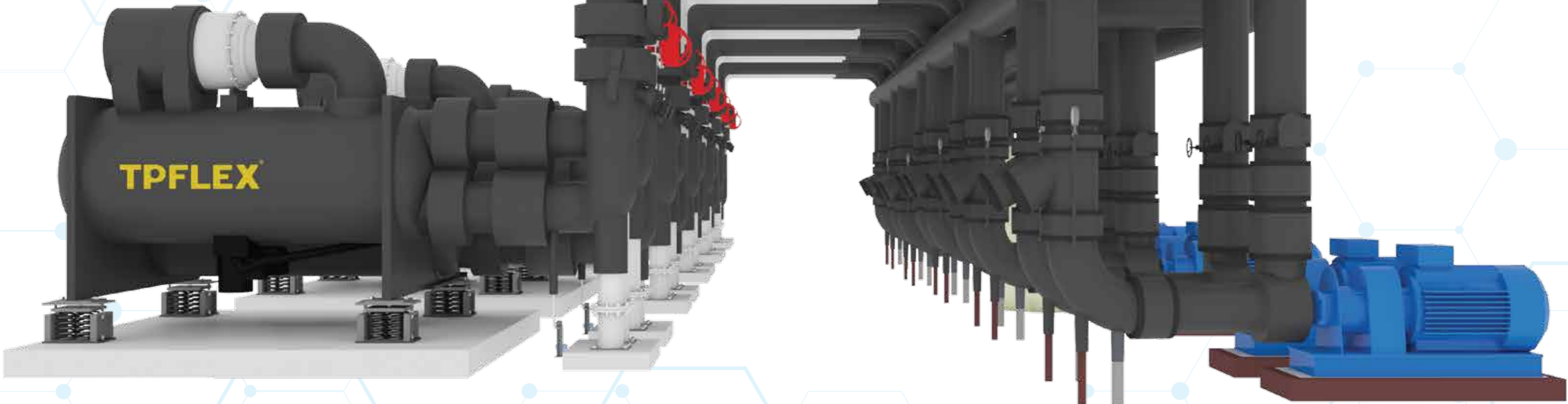
Fire performance | TPFLEX products have passed qualified certificates such as: Class O, Class V-0, Class C-s1-d0 ensuring to excellent fire resistance and highest international fire standards.

Flexible installation | With the high flexibility, TPFLEX is very easy to install in most of places, even with the narrow areas and extraordinary- shaped tubes.

Environment protection | Fibre-free, no formaldehyde and low VOCs, TPFLEX helps protect environment and maintain fresh air within system.

Sound absorption | Besides being insulation products, TPFLEX is good sound absorption material and reduces noise generated by equipment, air movement and water flow inside the duct.

APPLICATIONS



TPFLEX is NBR based insulation with superior design, energy saving designed for insulating liquid cooling and heating pipelines in HVAC&R. Besides, TPFLEX is free-fibre material, low VOCs, so it is the ideal product to use in clean- room for food factories, pharmaceutical industry, electromatic, server room.

TPFLEX significant applications

- ① Copper piping
- ⑤ Hot water
- ② Ducting
- ⑥ Sound reduction
- ③ Chiller system
- ⑦ Ceiling insulation
- ④ Water piping
- ⑧ Other insulating applications...

PACKING

TPFLEX STD Sheet

Providing all requirements in a variety of diameters, thicknesses and lengths



Thickness (mm)	Length (m)	Area/Roll (m2)		
		1.0m Width	1.22m Width	1.40m Width
6	15	SA06100 (15)	SA06122 (18.3)	SA06140 (21)
10	10	SA10100 (10)	SA10122 (12.2)	SA10140 (14)
13	8	SA13100 (8)	SA13122 (9.76)	SA13140 (11.2)
16	7	SA16100 (7)	SA16122 (8.54)	SA16140 (9.8)
19	6	SA19100 (6)	SA19122 (7.32)	SA19140 (8.4)
25	4	SA25100 (4)	SA25122 (4.88)	SA25140 (5.6)
32	3	SA32100 (3)	SA32122 (3.66)	SA32140 (4.2)
38	3	SA38100 (3)	SA38122 (3.66)	SA38140 (4.2)
50	2.5	SA50100 (2.5)	SA50122 (3.05)	SA50140 (3.5)

- + Sheet roll with adhesive side: add "AD" at the end of code
- + Sheet roll with aluminum laminated: add "AL" at the end of code
- + Sheet roll with aluminum and adhesive laminated: add "DL" at the end of code



TPFLEX STD Tube: 2M length/pcs

Providing all requirements in a variety of diameters, thicknesses and lengths

I.D. SIZE		Code Number (Quantity: Pieces/ Carton)						
MM	INCH	10 mm wall	13 mm wall	19 mm wall	25 mm wall	32 mm wall	38 mm wall	50mm wall
6	1/4"	TA10006 (144)	TA13006 (90)	TA19006 (48)	TA25006 (32)	TA32006 (*)	TA38006 (*)	TA50006 (*)
10	3/8"	TA10010 (108)	TA13010 (80)	TA19010 (42)	TA25010 (25)	TA32010 (20)	TA38010 (10)	TA50010 (*)
13	1/2"	TA10013 (100)	TA13013 (70)	TA19013 (36)	TA25013 (20)	TA32013 (18)	TA38013 (10)	TA50013 (*)
16	5/8"	TA10016 (84)	TA13016 (56)	TA19016 (34)	TA25016 (20)	TA32016 (16)	TA38016 (9)	TA50016 (*)
19	3/4"	TA10019 (68)	TA13019 (56)	TA19019 (30)	TA25019 (20)	TA32019 (16)	TA38019 (9)	TA50019 (*)
22	7/8"	TA10022 (60)	TA13022 (45)	TA19022 (30)	TA25022 (18)	TA32022 (12)	TA38022 (9)	TA50022 (6)
25	1"	TA10025 (50)	TA13025 (40)	TA19025 (25)	TA25025 (18)	TA32025 (12)	TA38025 (8)	TA50025 (6)
28	1-1/8"	TA10028 (50)	TA13028 (36)	TA19028 (24)	TA25028 (15)	TA32028 (12)	TA38028 (8)	TA50028 (5)
32	1-1/4"	TA10032 (42)	TA13032 (32)	TA19032 (18)	TA25032 (12)	TA32032 (10)	TA38032 (8)	TA50032 (4)
35	1-3/8"	TA10035 (38)	TA13035 (28)	TA19035 (18)	TA25035 (12)	TA32035 (10)	TA38035 (8)	TA50035 (4)
38	1-1/2"	TA10038 (36)	TA13038 (27)	TA19038 (18)	TA25038 (12)	TA32038 (10)	TA38038 (6)	TA50038 (4)
42	1-5/8"	TA10042 (30)	TA13042 (24)	TA19042 (16)	TA25042 (12)	TA32042 (8)	TA38042 (6)	TA50042 (4)
48	1-7/8"	TA10048 (25)	TA13048 (20)	TA19048 (15)	TA25048 (12)	TA32048 (8)	TA38048 (6)	TA50048 (4)
51	2"	TA10051 (24)	TA13051 (20)	TA19051 (12)	TA25051 (9)	TA32051 (8)	TA38051 (5)	TA50051 (4)
54	2-1/8"	TA10054 (20)	TA13054 (18)	TA19054 (13)	TA25054 (9)	TA32054 (8)	TA38054 (5)	TA50054 (4)
60	2-3/8"	TA10060 (26)	TA13060 (18)	TA19060 (12)	TA25060 (9)	TA32060 (7)	TA38060 (4)	TA50060 (4)
64	2-1/2"	TA10064 (26)	TA13064 (18)	TA19064 (12)	TA25064 (9)	TA32064 (7)	TA38064 (4)	TA50064 (4)
67	2-5/8"	TA10067 (*)	TA13067 (18)	TA19067 (11)	TA25067 (9)	TA32067 (7)	TA38067 (4)	TA50067 (4)
76	3"	TA10076 (*)	TA13076 (16)	TA19076 (12)	TA25076 (8)	TA32076 (6)	TA38076 (4)	TA50076 (3)
89	3-1/2"	TA10089 (*)	TA13089 (*)	TA19089 (8)	TA25089 (7)	TA32089 (6)	TA38089 (4)	TA50089 (3)
108	4-1/4"	TA10108 (*)	TA13108 (*)	TA19108 (8)	TA25108 (6)	TA32108 (4)	TA38108 (3)	TA50108 (3)
114	4-1/2"	TA10114 (*)	TA13114 (*)	TA19114 (7)	TA25114 (5)	TA32114 (4)	TA38114 (3)	TA50114 (3)
140	5-1/2"	TA10140 (*)	TA13140 (*)	TA19140 (6)	TA25140 (4)	TA32140 (4)	TA38140 (3)	TA50140 (2)
165	6-1/2"	TA10165 (*)	TA13165 (*)	TA19165 (3)	TA25165 (3)	TA32165 (2)	TA38165 (2)	TA50165 (2)
168	6-5/8"	TA10168 (*)	TA13168 (*)	TA19168 (3)	TA25168 (3)	TA32168 (2)	TA38168 (2)	TA50168 (2)

TPFLEX STD



TPFLEX STD is a high standard product which is popularly used in refrigerant industry in purpose of preventing condensation and saving energy. The products have low and stable thermal conductivity K- value, high water vapor permeability μ value and achieve USA fire test UL 94 Class V-0.

SPECIFICATIONS

Key properties	Value/Assessment	Test method/Standard
General		
Material	Elastomeric insulation, NBR/PVC based	
Basic colour	Black	For other colors, please contact with technical department
Cell structure	Completely closed cell	-
Density (kg/m ³)	45 to 65	ASTM D 1667
Service temperature		
Min service temperature	-50 °C	Under -50 °C, please contact with technical department
Max service temperature	+105 °C	Above +105 °C, please contact with technical department
Thermal conductivity		
K- value (W/m.K)	0°C	ASTM C 177
	20°C	
	40°C	
	0.033	
	0.035	
	0.037	
Water vapour behavior		
Water Vapour Permeability	$\leq 2.5 \times 10^{-11}$ g/(m.s.Pa)	EN 12086-13
Water vapour resistance factor	$\mu \geq 10,000$	
Water absorption	$\leq 2.8\%$ (by weight)	ASTM D 1056 ASTM C 209
	$\leq 0.04\%$ (by volume)	
Fire behavior		
Fire performance	Class V-0 No flaming droplet when burning	UL - 94
Low oxygen index (LOI)	High	ASTM D2863 ISO 4589-2
Health		
	Fibre and formaldehyde free Low VOCs	UL 2818
Environment		
Ozone resistance	Very good	ASTM D 1149 ASTM D 1171
UV resistance	Very good	
Mold resistance	No growth	ASTM C 1338
	Zero ODP and GWP	
Other technical data		
Sound reduction (AF)	33 dB (19 mm)	ASTM C 534
Flexibility	Excellent	
Heat stability (% shrinkage) @ 220°F (104°C) x 7 days	$\leq 10\%$	

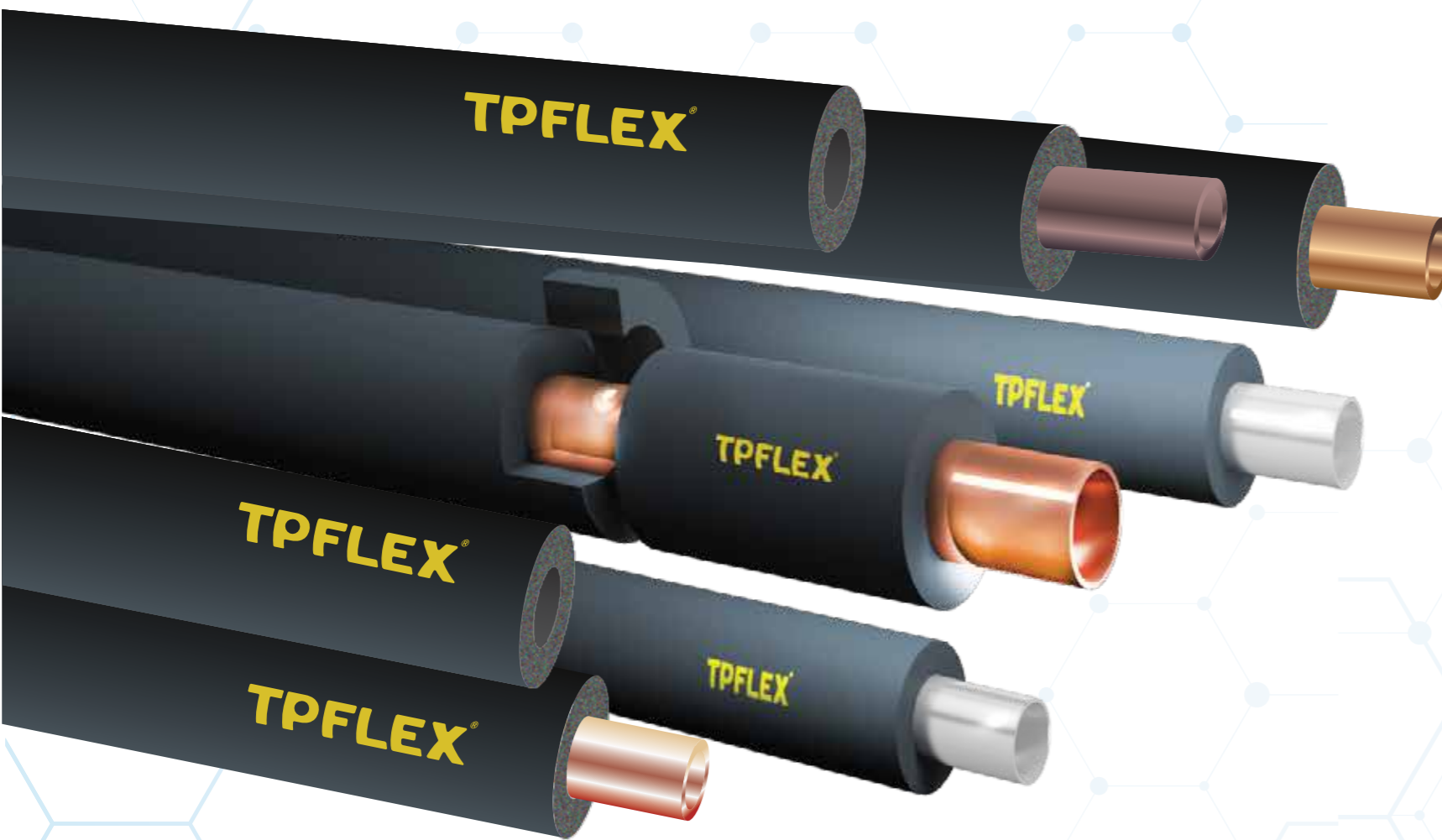
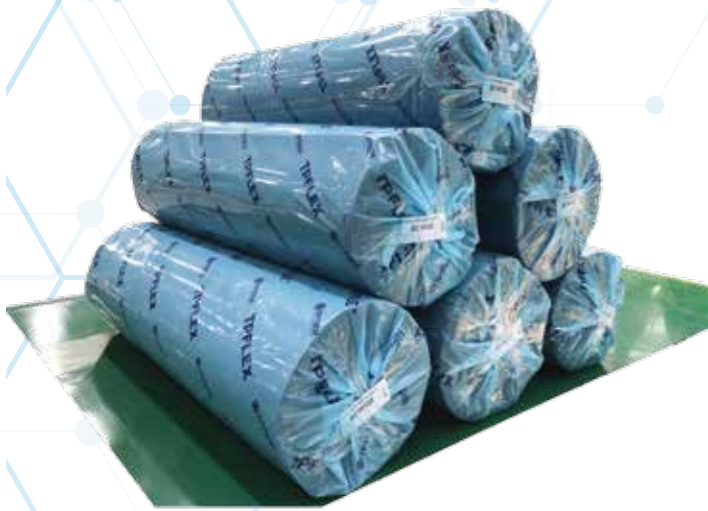
PACKING

TPFLEX Class 0 Sheet

Providing all requirements in a variety of diameters, thicknesses and lengths

Thickness (mm)	Length (m)	Area/Roll (m2)		
		1.0m Width	1.22m Width	1.40m Width
6	15	SC06100 (15)	SC06122 (18.3)	SC06140 (21)
10	10	SC10100 (10)	SC10122 (12.2)	SC10140 (14)
13	8	SC13100 (8)	SC13122 (9.76)	SC13140 (11.2)
16	7	SC16100 (7)	SC16122 (8.54)	SC16140 (9.8)
19	6	SC19100 (6)	SC19122 (7.32)	SC19140 (8.4)
25	4	SC25100 (4)	SC25122 (4.88)	SC25140 (5.6)
32	3	SC32100 (3)	SC32122 (3.66)	SC32140 (4.2)
38	3	SC38100 (3)	SC38122 (3.66)	SC38140 (4.2)
50	2.5	SC50100 (2.5)	SC50122 (3.05)	SC50140 (3.5)

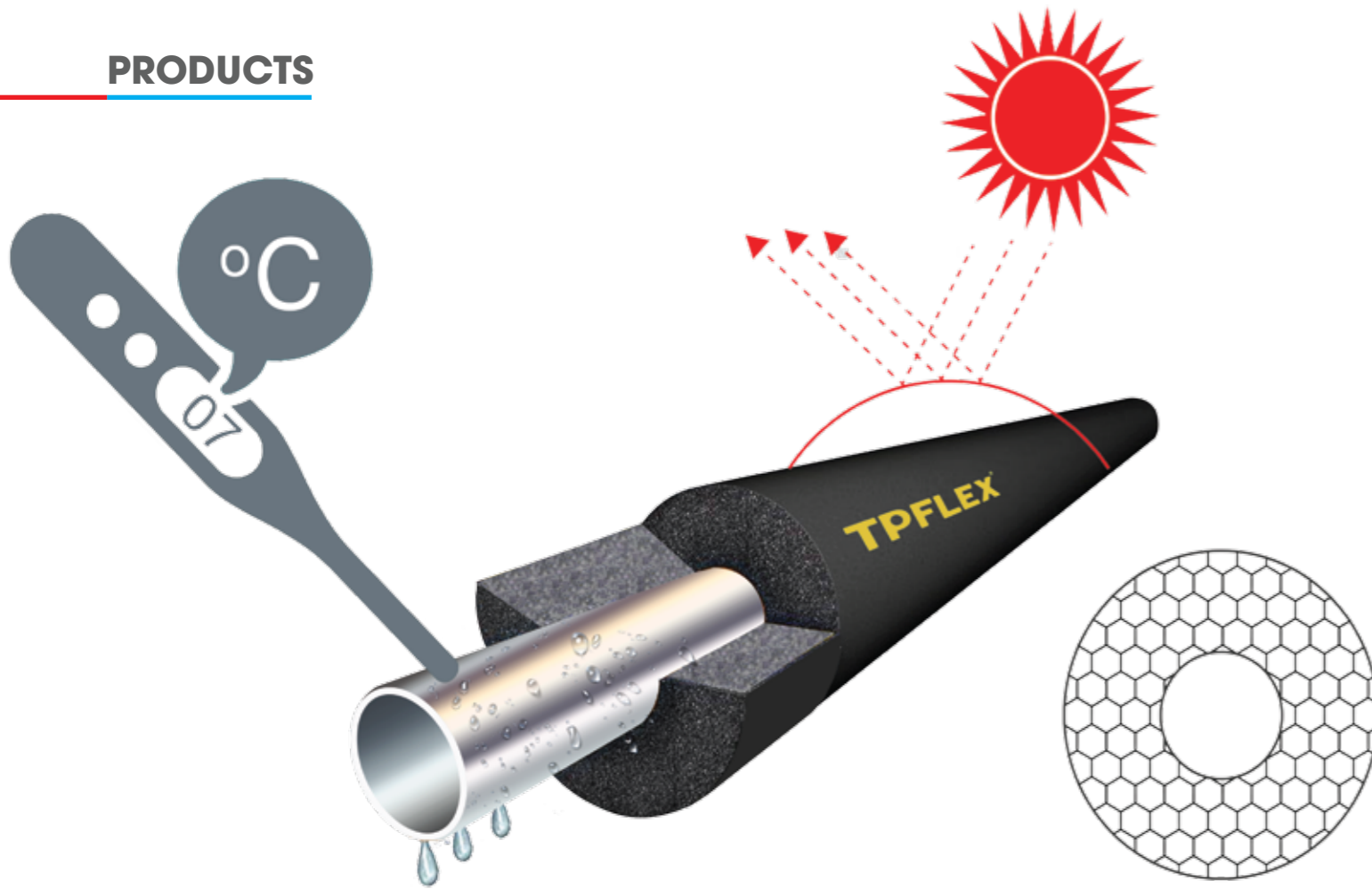
- + Sheet roll with adhesive side: add "AD" at the end of code
- + Sheet roll with aluminum laminated: add "AL" at the end of code
- + Sheet roll with aluminum and adhesive laminated: add "DL" at the end of code



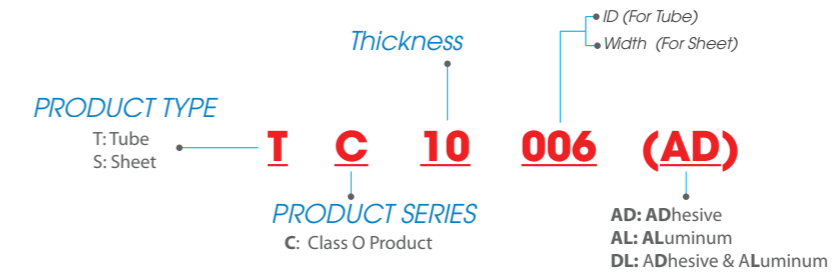
TPFLEX CLASS 0 Tube: 2M length/pcs

Providing all requirements in a variety of diameters, thicknesses and lengths

I.D. SIZE		Code Number (Quantity: Pieces/ Carton)						
MM	INCH	10 mm wall	13 mm wall	19 mm wall	25 mm wall	32 mm wall	38 mm wall	50mm wall
6	1/4"	TC10006 (144)	TC13006 (90)	TC19006 (48)	TC25006 (32)	TC32006 (*)	TC38006 (*)	TC50006 (*)
10	3/8"	TC10010 (108)	TC13010 (80)	TC19010 (42)	TC25010 (25)	TC32010 (20)	TC38010 (10)	TC50010 (*)
13	1/2"	TC10013 (100)	TC13013 (70)	TC19013 (36)	TC25013 (20)	TC32013 (18)	TC38013 (10)	TC50013 (*)
16	5/8"	TC10016 (84)	TC13016 (56)	TC19016 (34)	TC25016 (20)	TC32016 (16)	TC38016 (9)	TC50016 (*)
19	3/4"	TC10019 (68)	TC13019 (56)	TC19019 (30)	TC25019 (20)	TC32019 (16)	TC38019 (9)	TC50019 (*)
22	7/8"	TC10022 (60)	TC13022 (45)	TC19022 (30)	TC25022 (18)	TC32022 (12)	TC38022 (9)	TC50022 (6)
25	1"	TC10025 (50)	TC13025 (40)	TC19025 (25)	TC25025 (18)	TC32025 (12)	TC38025 (8)	TC50025 (6)
28	1-1/8"	TC10028 (50)	TC13028 (36)	TC19028 (24)	TC25028 (15)	TC32028 (12)	TC38028 (8)	TC50028 (5)
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38	1-1/2"	TC10038 (36)	TC13038 (27)	TC19038 (18)	TC25038 (12)	TC32038 (10)	TC38038 (6)	TC50038 (4)
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48	1-7/8"	TC10048 (25)	TC13048 (20)	TC19048 (15)	TC25048 (12)	TC32048 (8)	TC38048 (6)	TC50048 (4)
51	2"	TC10051 (24)	TC13051 (20)	TC19051 (12)	TC25051 (9)	TC32051 (8)	TC38051 (5)	TC50051 (4)
54	2-1/8"	TC10054 (20)	TC13054 (18)	TC19054 (13)	TC25054 (9)	TC32054 (8)	TC38054 (5)	TC50054 (4)
60	2-3/8"	TC10060 (26)	TC13060 (18)	TC19060 (12)	TC25060 (9)	TC32060 (7)	TC38060 (4)	TC50060 (4)
64	2-1/2"	TC10064 (20)	TC13064 (18)	TC19064 (12)	TC25064 (9)	TC32064 (7)	TC38064 (4)	TC50064 (4)
67	2-5/8"	TC10067 (*)	TC13067 (18)	TC19067 (11)	TC25067 (9)	TC32067 (7)	TC38067 (4)	TC50067 (4)
76	3"	TC10076 (*)	TC13076 (16)	TC19076 (12)	TC25076 (8)	TC32076 (6)	TC38076 (4)	TC50076 (3)
89	3-1/2"	TC10089 (*)	TC13089 (*)	TC19089 (8)	TC25089 (7)	TC32089 (6)	TC38089 (4)	TC50089 (3)
108	4-1/4"	TC10108 (*)	TC13108 (*)	TC19108 (8)	TC25108 (6)	TC32108 (4)	TC38108 (3)	TC50108 (3)
114	4-1/2"	TC10114 (*)	TC13114 (*)	TC19114 (7)	TC25114 (5)	TC32114 (4)	TC38114 (3)	TC50114 (3)
140	5-1/2"	TC10140 (*)	TC13140 (*)	TC19140 (6)	TC25140 (4)	TC32140 (4)	TC38140 (3)	TC50140 (2)
165	6-1/2"	TC10165 (*)	TC13165 (*)	TC19165 (3)	TC25165 (3)	TC32165 (2)	TC38165 (2)	TC50165 (2)
168	6-5/8"	TC10168 (*)	TC13168 (*)	TC19168 (3)	TC25168 (3)	TC32168 (2)	TC38168 (2)	TC50168 (2)



TPFLEX CLASS 0



TPFLEX CLASS 0 is a NBR based closed cell insulation specially formulated to meet England fire standard BS. Products have low flame spread following BS 476 part 7 and low fire propagation following BS 476 part 6.

SPECIFICATIONS

Key properties	Value/Assessment	Test method/Standard
General		
Material	Elastomeric insulation, NBR/PVC based	ASTM D 1667
Basic colour	Black	For other color, please contact technical department
Cell structure	Completely closed cell	-
Density (kg/m³)	45 to 65	
Service temperature		
Min service temperature	-50 °C	Under -50 °C, please require to technical department
Max service temperature	+105 °C	Above +105 °C, please require to technical department
Thermal conductivity		
K- value (W/m.K)	0°C	ASTM C 177 ASTM C 518
	20°C	
	40°C	
	0.033	
	0.035	
	0.037	
Water vapour behavior		
Water Vapour Permeability	≤2.5 x 10 ⁻¹¹ g/(m.s.Pa)	EN 12086-13
Water vapour resistance factor	μ ≥ 10,000	
Water absorption	≤2.8% (by weight)	ASTM D1056 ASTM C209
	≤0.04% (by volume)	
Fire behavior		
Fire performance	Class O	BS 476 Part 6 and 7 EN13501-1
	Class C-s1,d0	
Low oxygen index (LOI)	Very high	ASTM D2863 ISO 4589
Health		
	Fibre and formaldehyde free Low VOCs	UL 2818
Environment		
Ozone resistance	Very good	ASTM D 1149 ASTM D 1171 ASTM C 1338
UV resistance	Very good	
Mold resistance	No growth Zero ODP and GWP	
Other technical data		
Sound reduction (AF)	33 dB (19 mm)	ASTM C 534
Flexibility	Excellent	
Heat stability (% shrinkage) @ 220°F (104°C) x 7 days	≤10%	



ACCESSORIES

Insulation tape
TPTAPE



- + Materials: NBR.
- + Size: Thickness: 3mm, 6mm. Width: 50mm. Length: 25m.
- + Function: To adhere chiller pipes in shrinkage, curly parts in which insulation does not cover.
- + Working temperature: -50°C- 119°C.

Adhesive
TPGLUE



- + Color: Black.
- + Function: Slip insulation tube over pipes then use TPGLUE to adhere the edges. With high water vapor and weather resistance, TPGLUE is the ideal glue to prevent water and moisture from absorbing to joints. The glue forms a strong and permanent bonding, ensuring the long life service.
- + Working temperature: -50°C- 119°C.
- + Qualify VOCs follow LEED standard.

Aluminum foil tape
TPALU



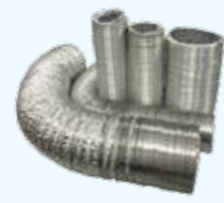
- + Aluminum foil tape: Fiber glass.
- + Size: Width: 50mm. Length: 25m.
- + Aluminum foil backing: ... micron.
- + Working temperature:
- + Function: Adhering and sealing the edges of: Glasswool, Insulation sheet, tube with aluminum laminated, preventing water vapor and saving energy.

Black color tape
TPADT



- + Working temperature:
- + Function: Adhering the straight edges to prevent moisture penetrating into pipes, helping to save energy.

Flexible Duct
TPDUCT



- + Function: TPDUCT is used for cooling and heating air ducting. The product is qualified fire standard.
- + Types: there are 2 types of flexible duct, insulated and non- insulated flexible duct.

Rubber equipment for fitness
TPFITNESS




- + Working temperature:
- + Function: Used to produce fitness equipment, rubber utensils,...

Insulation pipe supporting
TPFIX



- + Working temperature:
- + Function: With the high density PU foam, TPFIX helps to support metal pipe weight, the coverage is made from fire resistant rubber. It has the tape layer to adhere and seal after installation, helping to prevent moisture penetration and condensation.

Acoustic foam
TPSOUND



- + Working temperature:
- + Function: It is used to reduce noise in water pipings and ducting. TPSOUND qualifies fire standards.

